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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,163	02/26/2004	Kazuo Hokkingawa	051319/0166	8986
29619	7590	03/03/2006	EXAMINER	
SCHULTE ROTH & ZABEL LLP ATTN: JOEL E. LUTZKER 919 THIRD AVENUE NEW YORK, NY 10022			KRAUSE, JUSTIN MITCHELL	
			ART UNIT	PAPER NUMBER
			3682	

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/789,163

Applicant(s)

HOKKIRIGAWA ET AL.

Examiner

Justin Krause

Art Unit

3682

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-13, drawn to a sleeve bearing, classified in class 384, subclass 97.
  - II. Claim 14, drawn to a method of using a sleeve bearing, classified in class 29, subclass 893.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product does not need to be mounted in a submersible pump.
3. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Anna Vishev on February 23, 2006 a provisional election was made without traverse to prosecute the invention of a sleeve

bearing (invention I), claims 1-13. Affirmation of this election must be made by applicant in replying to this Office action. Claim 14 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1, 4-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-38 of copending Application No. 10/377,851 (US 2004/0013333). Although the conflicting claims are not identical, they are not patentably distinct from each other because there is no structural or material difference between the bearings.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claim 12 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 24 of copending Application No. 10/377,851 in view of Sakatani (US Patent 6,172,847). Application 10/377,851 discloses a shaft but does not explicitly define a material.

Sakatani discloses a stainless steel shaft (1) in a sleeve bearing to provide starting and stopping durability (col 6, lines 23-25) and it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the shaft from stainless steel, which is inherently rust resistant.

This is a provisional obviousness-type double patenting rejection.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "RBC or CRBC" which is indefinite because it is unclear which composition is being claimed.

Claim 12 recites the limitation "rust-resistant steel series metal" is unclear because it is not known what a steel series metal is. Perhaps --rust resistant steel-- would better define the claim.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1 and 3-10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakatani (US Patent 6,172,847) in view of Hokkirigawa et al (US Patent 6,395,677).

Sakatani discloses a sleeve bearing comprising a shaft (1) and a sleeve (6) but does not disclose a portion of the sleeve or the shaft being made of a synthetic resin composition obtained by uniformly blending a powder of RBC or CRBC with fibers and a resin.

Hokkirigawa discloses a synthetic resin composition obtained by uniformly blending a rice bran powder that undergoes a carbonizing process (RBC) with a resin (Abstract) for the purposes of better hot oil resistance, retaining oil and grease for a long period of time, providing a long service life, and utilization of biomass resources (Col 1, lines 58-64) and discloses the use of fiber reinforced resins in bearings is known within the art (Col 1, lines 20-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bearing of Sakatani and incorporate the synthetic resin composition of Hokkirigawa for the purposes of providing a bearing with better hot oil resistance, retaining oil and grease for a long period of time, providing a long service life, and utilization of biomass resources.

Regarding claim 3, Sakatani discloses a spiral groove formed on the external face of the shaft (fig 3, generally surface 41).

Regarding claim 4, Hokkirigawa discloses the ratio of powder by weight of RBC to resin as 50-90:50-10 (col 2, line 51) which is within the claimed range of 10-70:90-30.

Regarding claim 5, Hokkirigawa specifically discloses both phthalate resins and polyimide resins as useable resins and further states that any thermosetting resin may be used (col 2, lines 37-43), as well as Nylon 66 being known as a useable material in bearings (Col 1, line 20).

Regarding claim 6 and 7, Hokkirigawa discloses the particle diameter of the powder of RBC to be less than 300  $\mu\text{m}$ , and more specifically within the range of 50-250  $\mu\text{m}$  (Col 3, lines 44-47).

Regarding claim 8, all fibers are either organic or inorganic.

Regarding claim 9 and 10, Hokkirigawa discloses use of glass fibers in bearings as being known in the art (Col 1, line 20)

Regarding claim 12, Sakatani discloses the shaft being made of stainless steel (Col 8, line 24), which is a rust resistant steel series metal.

13. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakatani and Hokkirigawa as applied to claim 1 above, and further in view of Mori et al (US Patent 5,697,709).

Sakatani and Hokkirigawa disclose all of the claimed subject matter as described above but do not disclose spiral grooves on the inner face of the sleeve.

Mori teaches a sleeve bearing with grooves in the inner surface of the sleeve for generating dynamic pressure (claim 7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bearing of Sakatani and Hokkirigawa and add spiral grooves to the inner face of the sleeve, the motivation would have been to generate dynamic pressure in the bearing gap.



14. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakatani and Hokkirigawa as applied to claim 1 above, and further in view of Jinno et al (US Patent 4,737,539).

Sakatani and Hokkirigawa disclose all the claimed subject matter as described above. Sakatani and Hokkirigawa do not disclose a fiber content by weight to be 1-30% of the entire synthetic resin composition.

Jinno teaches a resin material for bearings with a fiber content by weight of .05-25% of the synthetic resin composition for the purposes of permitting adequate improvement in the sliding characteristics of the material and preventing difficulty in blending the fibers into the resin (Col 6, lines 37-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Sakatani and Hokkirigawa and use a fiber content between 1 and 30% by weight of the entire synthetic resin composition, the motivation being permitting adequate improvement in the sliding characteristics of the material and preventing difficulty in blending the fibers into the resin.

15. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakatani and Hokkirigawa as applied to claim 1 above, and further in view of Hokkirigawa et al (US 2002/0114548, herein referred to as -Hokkirigawa '4548- to distinguish between the references).

Sakatani and Hokkirigawa disclose all of the claimed subject matter as described above but do not disclose a shaft being made of the synthetic resin composition.

Hokkirigawa '4548 teaches use of a synthetic resin composition in a sleeve bearing shaft with a composition by mass of powder to resin to be 50-90:50-10 and that so long as one component of either the sleeve or shaft is made of an RBC resin composition and the other of the sleeve or shaft is made from a rust resistant metal, the bearing will function the same (paragraph 0009). Therefore it would have been obvious to one of ordinary skill in the art to make the shaft out of a synthetic resin composition having a ratio of RBC to resin of 30-90:70-10 for the purposes of providing a bearing with better hot oil resistance, retaining oil and grease for a long period of time, providing a long service life, and utilization of biomass resources.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMK  
2/24/06

A handwritten signature in black ink, appearing to read 'Richard Ridley', written in a cursive style.

RICHARD RIDLEY  
SUPERVISORY PATENT EXAMINER